

Title (en)

ARRAY-FED REFLECTOR ANTENNA DEVICE AND METHOD OF CONTROLLING THIS DEVICE

Title (de)

GRUPPENGESPEISTE REFLEKTORANTENNENVORRICHTUNG UND STEUERUNGSVERFAHREN FÜR DIESE VORRICHTUNG

Title (fr)

DISPOSITIF D'ANTENNE À RÉFLECTEUR ALIMENTÉ PAR RÉSEAU ET PROCÉDÉ DE SON PILOTAGE

Publication

EP 2919321 B1 20220216 (EN)

Application

EP 13852574 A 20130314

Priority

- JP 2012245516 A 20121107
- JP 2013057222 W 20130314

Abstract (en)

[origin: US2015138018A1] A beam direction controlling unit includes a relative position determining unit that determines a relative position between a reflector antenna and an array antenna by controlling a driver in such a way that a range on the array antenna onto which a parallel light beam from a desired beam direction is projected is a range in which element antennas are arranged, an excitation element selector that selects, as element antennas to be excited, element antennas onto which the parallel light beam is projected at the determined relative position, an excitation amplitude phase determining unit that sets an excitation amplitude phase of the selected element antennas, and sets the excitation amplitude phase to an excitation amplitude phase controller, and a transmitter receiver connecting unit that connects the selected element antennas to a transmitter receiver.

IPC 8 full level

H01Q 1/12 (2006.01); **H01Q 3/16** (2006.01); **H01Q 3/34** (2006.01); **H01Q 19/12** (2006.01); **H01Q 19/17** (2006.01); **H01Q 21/22** (2006.01); **H01Q 25/00** (2006.01)

CPC (source: EP US)

H01Q 1/1264 (2013.01 - EP US); **H01Q 3/02** (2013.01 - US); **H01Q 3/16** (2013.01 - EP US); **H01Q 3/18** (2013.01 - US); **H01Q 3/20** (2013.01 - US); **H01Q 3/34** (2013.01 - EP US); **H01Q 19/12** (2013.01 - EP US); **H01Q 19/17** (2013.01 - EP US); **H01Q 21/22** (2013.01 - EP US); **H01Q 25/007** (2013.01 - US); **H01Q 25/007** (2013.01 - EP)

Citation (examination)

- US 7705796 B2 20100427 - PARK CHARLES Y [US]
- US 7564420 B2 20090721 - JEON SOON-IK [KR], et al
- EP 0514886 A1 19921125 - HUGHES AIRCRAFT CO [US]
- ANTONIO GARCIA PINO ET AL: "A dual reflector antenna with adjustable subreflector for hybrid mechanical-electronic scanning", ANTENNAS AND PROPAGATION, 2006. EUCAP 2006. FIRST EUROPEAN CONFERENCE ON, IEEE, PISCATAWAY, NJ, USA, 6 November 2006 (2006-11-06), pages 1 - 6, XP031393284, ISBN: 978-92-9092-937-6
- MARTINEZ-LORENZO J A ET AL: "Zooming and Scanning Gregorian Confocal Dual Reflector Antennas", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 56, no. 9, 1 September 2008 (2008-09-01), pages 2910 - 2919, XP011234077, ISSN: 0018-926X, DOI: 10.1109/TAP.2008.928777
- BAHADORI K ET AL: "An array-compensated spherical reflector antenna for a very large number of scanned beams", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 53, no. 11, 1 November 2005 (2005-11-01), pages 3547 - 3555, XP001512753, ISSN: 0018-926X, DOI: 10.1109/TAP.2005.858844
- YOUNG-BAE JUNG ET AL: "Novel Antenna System Design for Satellite Mobile Multimedia Service", IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 59, no. 9, 1 November 2010 (2010-11-01), pages 4237 - 4247, XP011318533, ISSN: 0018-9545
- CHAN K K ET AL: "Confocal parabolic reflector antenna design trade-offs", PROCEEDINGS OF IEEE ANTENNAS AND PROPAGATION SOCIETY INTERNATIONAL SYMPOSIUM, IEEE, ANN ARBOR, MI USA, 28 June 1993 (1993-06-28), pages 808 - 811vol.2, XP032366874, ISBN: 978-0-7803-1246-3, DOI: 10.1109/APS.1993.385225
- SUDHAKAR RAO K ET AL: "DEVELOPMENT OF A 45 GHZ MULTIPLE-BEAM ANTENNA FOR MILITARY SATELLITE COMMUNICATIONS", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 43, no. 10, 1 October 1995 (1995-10-01), pages 1036 - 1047, XP000669398, ISSN: 0018-926X, DOI: 10.1109/8.467639
- GEORGE SKAHILL: "A Dual Reflector Antenna Scans Many Beamwidths without Loss of Gain, Resolution or Sidelobe Level", MICROWAVE JOURNAL, vol. 31, no. 3, 1 March 1988 (1988-03-01), pages 129 - 139, XP001384138

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

US 2015138018 A1 20150521; US 9601827 B2 20170321; EP 2919321 A1 20150916; EP 2919321 A4 20160706; EP 2919321 B1 20220216; JP 5837223 B2 20151224; JP WO2014073222 A1 20160908; WO 2014073222 A1 20140515

DOCDB simple family (application)

US 201314400333 A 20130314; EP 13852574 A 20130314; JP 2013057222 W 20130314; JP 2014545586 A 20130314